



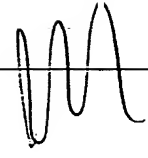
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,326	02/26/2002	Briand Danick	BERGLUNDS P9918	6935
27667	7590	09/10/2004	EXAMINER	
HAYES, SOLOWAY P.C. 130 W. CUSHING STREET TUCSON, AZ 85701			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/009,326	<b>Applicant(s)</b> DANICK ET AL. 	
	<b>Examiner</b> Leonid M Fastovsky	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19, 21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21 and 23-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6, 8, 11, 21 and 23-26 are rejected under 35 U.S.C. 103(a) as being obvious over Semancik et al (5,345,213).

Semancik teaches a micro-hotplate device (Figures 1-6), a support substrate and a silicon chip 12 (corresponding to the claimed heating transistor -col. 8, lines 55-65), a membrane 2- 3, an island 8 attached to the membrane and isolated from the membrane by insulating material 13, a resistive heating element 5 (col. 7, lines 1-10), and leads 9 that sense a temperature by measuring resistivity and corresponding to the claimed temperature –sensitive resistor, wherein said leads and the heating element are integrated within the island 8, an **active** chemical sensor –layer 19 (col. 9, lines 1-2) inherently exposed to ambient (col. 10, lines 49-63, Col.7, lines 50-68, Col. 8, lines 50-68), and array of micro-hot plates (Col. 10, lines 7-15).

Regarding a detecting mechanism in claim 1, Semancik teaches substantially the claimed invention including means to measure properties of the chemical sensor (col. 13, lines 41-43). It would have been obvious to one having ordinary skill in the art to include a detecting mechanism in combination with the chemical sensor as means to measure properties of the layer of chemical active material in order to form an even distribution of heat as taught by Semanick (col. 13, lines 28-43).

As for claims 21 and 23-26, Semanick teaches an array of four micro-hot plates. It would have been obvious to one having ordinary skill in the art to use additional chemical sensors, detection mechanisms and gas sensors in Semanick's device in order to form an even distribution of heat as taught by Semanick (col. 13, lines 28-43).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Semancik in view of Goessler et al (5,103,077).

Semancik discloses substantially the claimed feature except a diode. Goessler shows a diode 44. It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Semancik to include a diode in order to reduce the power of the lighting means as taught by Goessler (col. 3, lines 49-54).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Semancik in view of Giedd et al (5,753,523).

Semancik disclose substantially the claimed feature except an insulator being a silicon nitride. Giedd shows an insulator being a silicon nitride (Col. 7, lines 51-55). It would have been obvious to one having ordinary skill to adapt a modified invention of Semancik to use a silicon insulator in the substrate for contact resistor type devices

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which have sufficient flatness and uniform thickness in order to advantageously fabricate a silicon bridge as taught by Giedd (col. 7, lines 51-55).

6. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semanick in view of Camilletti et al (5,753,374).

Semancik discloses substantially the claimed features except a semiconductor being a silicon carbide. Camilletti teaches a hot plate and a semiconductor material made out of a silicon carbide (col. 3, lines 19-30). It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Semancik to use a silicon carbide in order to make the ceramic surface plane that is suitable for additional coating as taught by Camilletti (col. 3, lines 24-26).

7. Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semancik in view of Peng et al (6,251,794) and Mansell et al (6,108,121).

Semancik discloses substantially the method of fabrication of a hot-plate device (claims 19-28). However, Semancik does not teach masking and various types of etching. Peng shows a masking step (Col.4, lines 30-35) and Mansell shows potassium hydroxide, ammonium hydroxide and ion etching (Col. 5, lines 52-65). It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Semancik to use masking step in order to pattern a photosensitive polyamide as taught by Peng (col. 4, lines 30-35) and etching steps in order to form pillars with sidewalls as taught by Mansell (col. 5, lines 52-65).

***Response to Arguments***

8. Applicant's arguments filed on 4/1/04 and 6/23/04, after the interview on 6/14/04 have been fully considered, but they are not persuasive. The Applicant argues that the chemical sensor cited in the prior art of Semanick is **passive** (stated in his Remarks on 4/1/04, pages 12-13). Semanick, however, teaches an **active** chemical sensor-layer 19 ( See col. 9, lines 1-2), and hence, satisfies the limitations of the claims. Thus, the rejections are proper and remain.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

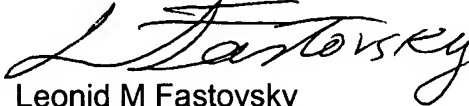
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

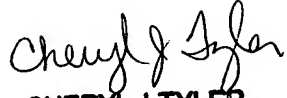
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Leonid M Fastovsky  
Examiner  
Art Unit 3742

lmf

  
CHERYL J. TYLER  
PRIMARY EXAMINER